

TAG 2.5 Design and Build

Name _____

Hour _____ Date _____



Design and Build Your Best Propeller Car

Read p. 131.

Design a Propeller Car

Individual Planning

Read p. 32 and complete your “Design Decisions” page, following the directions on p. 132.

Why do you think each of your design decisions will result in a propeller car that travels far?

What evidence from earlier experiments supports your thinking?

What science knowledge supports your thinking?

What weaknesses, if any, does your design have?

How might these weaknesses affect the performance of your propeller car?

Conference

Read p. 133 with your group.

After each person gets to share his/her design, make a group design on a new “Design Decisions” page.

Be ready to talk to the rest of the class about how well you think your design will work and what problems you foresee with your design.



Communicate

Follow your teacher’s directions to share your ideas.

Build and Test

With your group, read p. 135. Test your car, recording your results on your “Testing My Design” page.



Communicate

Follow your teacher’s directions to share your ideas in a solution briefing. Take notes on the following page.

Solution Briefing Notes:

Test Your Design & Analyze Your Data

Read the bottom of p. 137-top of p. 141. Record your data on the “Changes in Speed” page.

Make a Motion Storyboard

	At Rest (before start)	Interval 1	Interval 2	Interval 3	Interval 4	At Rest (after stopping)
Force Diagram						
Balanced or Unbalanced Forces						
Net Force arrow						
Average Speed						

Reflect

1. Identify the force pairs acting on your propeller car?
2. Which forces affect motion?
3. Which forces determine net force?
4. Think about any other design changes that would improve its performance now that you know more about how your propeller car's average speed changes over time.

Communicate

Follow your teacher's directions to share your ideas.



Reflect: Read the questions on the bottom of p. 143 and discuss with your group. Record your answers below and be ready to share with the class.

1.

2.